

Var. = *T. castanea*, Kiener, l. c. pl. 7. f. 14.

Var. = *T. laurina*, Hinds, Thesaurus Conch. i. pl. 42. f. 27.

Var. = *T. stylata*, Hinds, l. c. pl. 44. f. 79.

Var. = *T. jamaicensis*, C. B. Adams, Contrib. Conchol. i. p. 58.

*Hab.* West Indies.

XIX.—*New and peculiar Mollusca of the Patellidæ and other Families of Gastropoda procured in the 'Valorous' Expedition.* By J. GWYN JEFFERYS, LL.D., F.R.S.

### Patellidæ.

*Tectura rubella*, Fabricius.

*Patella rubella*, Fabr. Fn. Gr. p. 386.

BODY greyish-white, with numerous and close-set brownish streaks in front: *head* semicircular: *mouth* concave, opening horizontally, and puckered: *mantle* thick: *tentacles* awl-shaped, contractile, with blunt tips: *eyes* small, black, sessile on the tentacles at their outer base: *foot* oval. Sluggish.

Godhavn, 5–20 fms.; Station 4, 20 fms.; 5, 57 fms. (dead); Holsteinborg, 3–12 fms. Greenland (Fabricius and others). Spitzbergen (Torell)! Tromsø, Norway (M. Sars). Labrador (Packard, *vide* Whiteaves); Newfoundland (Verkrüzen)!

Young shells have a butotn-shaped (and not a spiral) apex, which turns to the broader and longer end, as in *Lepeta*; but in the latter genus the apex is spiral. The apex is strongly striated lengthwise, and resembles that of *Ancylus*.

In a Greenland specimen, which I received from Dr. Mörch, I found two fry with perfect shells enclosed in the concavity of the foot. Perhaps *T. rubella* may be the type of a distinct genus (say *Erginus*, from one of the Argonauts). I see no reason for changing the opinion which I expressed in the third volume of 'British Conchology,' p. 246, for retaining the generic name *Tectura* in preference to the later and objectionable name *Acmaea*, although Mr. Dall and the Rev. J. E. Tenison Woods prefer to use *Acmaea*.

*Lepeta cæca*, O. F. Müller.

*Patella cæca*, O. F. Müller, Zool. Dan. Prodr. p. 237. no. 2866.

BODY of a pale yellowish colour, pinkish about the head: *mouth* round, opening vertically: *mantle* thick: *tentacles* awl-shaped, and thick: *eyes* none: *foot* oval, stout.

Off Godhavn, 80 fms.; Station 1, 175 fms.; 3, 100 fms.; 5, 57 fms.; Holsteinborg, 35 fms.; St. 13, 690 fms.

Circumpolar, and ranging southwards to the west coast of Scotland, Cape Cod, and North Japan, at depths of from 4 to 100 fathoms; also widely distributed in the Pliocene and newer Tertiary strata of northern regions. The apex in the young is spiral, incurved, and deciduous, and it resembles that of *Propilidium*; but in the latter the spire is persistent and has two turns instead of one; and *L. caeca* wants the internal septum.

*Propilidium ancyloides*, Forbes.

*Patella*? *ancyloides*, Forb. in Ann. Nat. Hist. vol. v. p. 108, pl. ii. f. 10.

Station 12, 1450 fms.; one dead specimen. 'Lightning' Expedition, 189 fms. 'Porcupine' Expedition, 1869, west coast of Ireland, 90-1366 fms.: 1870, Bay of Biscay, 220-1095 fms. British and Scandinavian. Mediterranean, off Rinaldo's Chair, 60-160 fms. Bay of Naples, 60 fms. (Acton)!

It is the *Rostrisepta parva* of Seguenza, a Pliocene fossil of Sicily.

Fissurellidæ.

*Puncturella profundi*\*, Jeffr.

SHELL conical, with a roundish-oval outline, thin, semi-transparent, of a dull hue: *sculpture*, numerous longitudinal and equal-sized striæ, and still more numerous but minute and less raised concentric striæ, the intersection of which causes a very fine and delicate cancellation and a beading of the longitudinal striæ: *colour* brownish-white, becoming pale yellowish in dead specimens: *beak* smooth, incurved and twisted to the left, forming a minute spire of one whorl and a half: *slit* pear-shaped: *mouth* roundish-oval: *margin* very finely scalloped: *inside* glossy and somewhat nacreous: *plate* or septum large, triangular, thin, placed vertically in the middle, and occupying the lower third of the inside, so as to separate the anterior from the other half; it is not a vaulted sheath as in *P. noachina*, nor does it cover (although it apparently protects) the slit or opening at the top. L. 0.25. B. 0.2.

Station 12, 1450 fms.; dead specimens. 'Porcupine' Expedition, 1870, coast of Portugal, 740-1095 fms.

I have described the shell from a 'Porcupine' specimen. This differs from *P. noachina* in the size, shape, texture, sculpture, slit, and internal plate. It belongs to the genus

\* Inhabiting the depths of the sea.

*Fissurisepta* of Seguenza (Ann. d. Accad. d. Aspir. Nat. 3<sup>a</sup> ser. vol. ii.) ; but the only character which distinguishes *Fissurisepta* from *Puncturella* is the shape of the internal plate or septum. The spire in *Fissurisepta* is usually deciduous or worn away. The present species is allied to another undescribed species (*granulosa*), which I dredged in the 'Porcupine' Expedition of 1870 at a depth of 292 fathoms, and at Dröbak in Christianiafiord at 60 fathoms. In that species the longitudinal striæ are closely beaded, and there are no concentric or transverse striæ. *P. papillosa* and *P. rostrata* of Seguenza are two other 'Porcupine' species, and were found by Professor Seguenza in the Pliocene formation at Messina. The sculpture in all the species varies in being more or less coarse or fine, and is sometimes absent.

### Scissurellidæ.

#### *Scissurella crispata*, Fleming.

*Scissurella crispata*, Flem. in Mem. Wern. Soc. vol. vi. p. 385, pl. 6. f. 3.

Station 5, 57 fms.; one living specimen. British and Scandinavian coasts, 7–300 fms. Greenland (Möller, Torell). Spitzbergen (Torell). Labrador (Principal Dawson, *vide* Packard). Gulf of Gascony, 40–80 fms. (De Folin). 'Lightning' Expedition, 170 and 189 fms. 'Porcupine' Expedition, 1869, west of Ireland, 164 and 173 fms.; one specimen is intermediate in size between the Scotch and Scandinavian forms: 1870, Bay of Biscay, 220–1095 fms.; Mediterranean, 51–207 fms. Fossil in the Pliocene formation from Norway to the Ægean archipelago.

*S. angulata* of Lovén is evidently the same as our species, and differs in its much greater size only. I dredged it at Dröbak in 1869, and subjoin a description of the animal.

BODY milk-white, with a yellowish-brown tinge in front: head thick, snout-shaped: tentacles conical, ciliated: eyes small, on the outer base of the tentacles: foot bilobed and double-edged in front, abruptly pointed behind; tail or extremity pinched up, and grooved underneath: pedal filaments or appendages as in *Trochus*, but more numerous (8 at least on each side); they are angular and finely ciliated; each filament has at its base a white globular eye-spot. The slit serves for an anal or excretory duct; fæces worm-shaped, long, and of a dark brown colour, visible through the shell. Operculum chitinous, thin, and multispiral, with a central nucleus. The animal was shy or delicate, and died soon after being put into a glass phial of sea-water.

I regard *S. aspera* of Philippi as a variety of the present species. The height of the spire is an unreliable character.

*Scissurella tenuis* \*, Jeffr.

SHELL forming a depressed cone with an expanded base, sloping to the periphery and slit, very thin, scarcely semi-transparent, and rather glossy: *sculpture*, extremely numerous and fine curved longitudinal striæ, and equally numerous and fine concentric or spiral striæ, which by their intersection cause a regular but minute cancellation; the concentric striæ at the base are stronger and more distinct than the longitudinal striæ; the sculpture is of course interrupted by the peripheral slit and groove: *colour* pearl-white: *spire* greatly depressed: *whorls* 5, somewhat flattened below the suture; the last enormously exceeds in size all the others put together: *slit* central, long and broad: *groove* also broad, marked across by regular but rather distant curved striæ; edges sharp and upturned: *mouth* obliquely oval: *outer lip* thin: *inner lip* folded back and curved: *pillar* nearly straight, having a twisted fold in front of the *umbilicus*, which is small and narrow. L. 0·25. B. 0·2.

Station 12, 1450 fms.; two dead and imperfect specimens.

This differs from *S. crispata* and its varieties in its depressed shape, thinner texture, more delicate sculpture, the larger size of the last whorl in comparison with the others, the pillar being furnished with a fold, and in its narrower umbilicus.

**Trochidæ.**

*Cyclostrema basistriatum* †, Jeffr.

SHELL somewhat globular, resembling in shape a small *Trochus* of the *Margarita* section, thin, semitransparent, and glossy: *sculpture*, more or less numerous and fine spiral striæ, which cover different parts of the surface in different specimens; sometimes they occur on the base only and encircle the umbilicus, being in that case stronger; at other times the upper whorls have a single ridge-like stria at the top, so as to give an angulated appearance to the crown or summit; in the young the umbilicus is surrounded by a strong keel-like stria: *colour* whitish: *spire* raised: *whorls* 4, swollen; the last occupies three fourths of the spire; the first or topmost whorl is rounded and blunt: *suture* deep: *mouth* circular, slightly angular above: *umbilicus* rather narrow, but deep:

\* Thin.

† Striated at the base.

*operculum* smooth, having 6 or 7 whorls, which are divided by raised lines. L. 0·125. B. 0·1.

Station 13, 690 fms. ; a single young and living specimen. 'Lightning' Expedition, 189 fms. 'Porcupine' Expedition, 1869, between the Orkney and Faroe Isles, 290 fms. : 1870, coast of Portugal, 740-1095 fms. Lofoten Isles, 200-300 fms. (G. O. Sars, as "*C. nitens*" of M. Sars); Bergen district, 50-400 fms. (Friele); Upper Norway (Lilljeborg, M'Andrew); Dröbak (Verkrüzen).

The description has been taken from Norwegian specimens. I would have substituted for *basistriatum* another specific name; but the present name has been adopted by Weinkauff in his 'Catalog der im europäischen Faunengebiet lebenden Meeres-Conchylien,' as well as by Friele in his 'Oversigt over de i Bergens Omegn forekommende skaldægte Mollusker,' on my authority. Probably *C. levis* of Searles Wood, from the Coralline Crag at Sutton, which he refers to the *Delphinula levis* of Philippi, may be the young of the present species. Philippi's species is unquestionably *C. serpuloides*.

*C. basistriatum* is not so globular as *C. Cutlerianum*, and is comparatively gigantic; the sculpture is coarser, and the operculum is smooth.

### *Molleria costulata*, Möller.

*Margarita?* *costulata*, Möll. Ind. Moll. Grœnl. p. 8.

BODY white, with a faint tinge of cream-colour or pale yellowish: *head* small and short, semicircular, and resembling that of the section *Margarita* of *Trochus*: *mouth* vertical, continually opening and shutting: *tentacles* elegant and feathery, but not ciliated: *eyes* rather large and round, placed on small bulbs or tubercles at the outer base of the tentacles: *foot* broad, squarish and double-edged in front, angular or bluntly pointed behind: the upper part of the foot has tentacular processes or filaments (four on each side), as in *Trochus*, which, however, are not ciliated in *Molleria costulata*, but are notched at the edges, and are conical and short; none could be detected in front of the foot, as stated by Möller in his description. His words are "Margaritis quidem affinis, ab illis propter peristoma continuum aperturæ et pedem animalis antice filamentis obsitum diversa est." The animal crawls rather quickly, but painfully.

Station 4, 20 fms. ; 5, 57 fms. ; Holsteinborg, 10 and 35 fms. Greenland (Möller). Iceland and Spitzbergen (Torell). Oxfjord, Finmark (M. Sars). 'Lightning' Expedition, 170

fms. Labrador (Dawson, *vide* Packard). St. John's Harbour, Newfoundland (Verkrüzen). Fossil in Norway, Sweden, Scotland, and the east of Ireland.

The genus *Molleria* differs from *Turbo* in the same way that *Cyclostrema* does from *Trochus*, *i. e.* in having a complete peristome. In *Molleria* and *Turbo* the operculum is calcareous, in *Cyclostrema* and *Trochus* it is chitinous.

*Trochus cinereus*, Couthouy.

*Turbo cinereus*, Couth. in Boston Journ. Nat. Hist. vol. ii. p. 99, pl. 3. f. 9.

BODY yellowish-white: *head* semicircular and hood-like, notched at the outer edge; it is furnished with a small triangular lappet or flap on each side: *tentacles* cylindrical and thread-shaped, finely ciliated: *eyes* small, black, placed on short bulbs at the outer base of the tentacles: *foot* thick, squarish in front and bluntly pointed behind; it has 6 cirri or filaments on each side, which are ciliated like the tentacles, and are of different sizes and lengths.

Waigat Strait, 15-25 fms.; Station 4, 20 fms.; 5, 57 fms. West Greenland (Möller and others). East Greenland (Möbius). Spitzbergen, 5-15 fms. (Torell, Kroyer). Iceland (Steenstrup and others). Norway, 10-130 fms. (Sars and others). 'Lightning' Expedition, 170 fms. (dead). 'Porcupine' Expedition, 1869, 173 fms. (dead). Eastern coasts of North America, from Mackenzie River southwards to Cape Cod, 7-150 fms. Mexico (British Museum). Fossil in Norway and Sweden, Shetland, Scotland, Ireland, and Berwick Bay.

A Spitzbergen specimen of the variety *Grænlandica*, Möller, measures  $\frac{3}{4}$  of an inch in breadth. Specimens vary in the height of the spire as well as in the character of the sculpture. The outer layer in one of my Greenland specimens having been mostly removed by erosion, the surface of the inner layer presents a pearly appearance.

Fabricius appears to have considered this species a variety of his *T. cinerarius* (not Linné's species of that name), which is the *T. Grænlandicus* of Chemnitz. Broderip and Sowerby's specific name *striata* (1829) has precedence of Couthouy's (1839) by ten years; but we have already a Linnean species of the same name. It is possibly the *Margarita arctica* of Leach; although his description in the Appendix to Sir John Ross's voyage (1819) is too vague for determination, and may apply to *T. Grænlandicus*; it is "*M. purpurascens carnea—tenuiter striolata, operculo testaceo.*"

I notice this and a few other species which are common in the arctic seas, because I am able to give a description of the animal.

*Trochus umbilicalis*, Broderip and Sowerby.

*Margarita umbilicalis*, Brod. & Sow. in Zool. Journ. vol. iv. 1829, p. 371.

Station 4, 20 fms. Davis Strait (Warham and Harrison, *fide* Hancock). Wellington Channel (Belcher). Lancaster Sound (Sir J. C. Ross). Loom Bay, Spitzbergen (Eaton)! Arctic Expedition, 1875, F. Pierce Bay, N. lat.  $79^{\circ} 25'$ , 15 fms.; Discovery Bay, N. lat.  $81^{\circ} 41'$ ,  $5\frac{1}{2}$  fms.! Fossil in Kane Valley, N. lat.  $82^{\circ} 33'$  (Feilden)!

BODY yellowish: *head* horseshoe-shaped and prominent; *tentacles* thread-shaped, covered with very fine and close-set cilia: *eyes* on small bulbs at the outer base of the tentacles: *foot* long and slender; pedal filaments numerous, ciliated like the tentacles, each filament provided with an ocellus or eyespot at its outer base; there are six on each side, and several other smaller (some of them double) filaments at the end or tail of the foot. The animal differs from that of *T. Grænlandicus* (which is found with it) in having shorter and less slender tentacles, and in *T. Grænlandicus* being destitute of caudal filaments.

It is Möller's variety *levior* of *T. Grænlandicus*; but I believe they are distinct species. I have specimens of each from Spitzbergen agreeing in size and the height of the spire. *T. umbilicalis* has a more expanded shape and thinner texture; and the umbilicus is always more open and wide. The sculpture varies in both.

Not *T. umbilicalis* of Da Costa, which is *T. umbilicatus* of Montagu, and *T. umbilicaris* of Pennant, but not of Linné. Such a ringing of the changes is inconvenient.

*Trochus olivaceus*, Brown.

*Turbo olivaceus*, Brown, Illustr. Brit. Conch. 1827, pl. 46. f. 30, 31 (no page).

BODY milk-white: *head* semicircular, finely and regularly notched in front, and having on each side a small triangular lappet: *tentacles* thread-shaped and slender, covered with close-set and microscopic cilia: *eyes* placed on small bulbs at the outer base of the tentacles: *foot* broad, rounded and double-edged in front, bluntly pointed behind; appendages 3 on each side on the upper part of the foot, shortish, finely ciliated like the tentacles. Animal active.

Station 3, 100 fms.; 4, 20 fms.; 5, 57 fms.; Holsteinborg, 10 fms. Greenland (Möller)! United States, north of Cape

Cod! Nova Scotia, Newfoundland, and Gulf of St. Lawrence! Wellington Channel, 78 fms. (Belcher)! Arctic Expedition, 1875, N. lat.  $81^{\circ} 41'$ ,  $5\frac{1}{2}$  fms.; F. Pierce Bay, N. lat.  $79^{\circ} 25'$  (Feilden)! Spitzbergen, 25–40 fms. (Torell)! Norway, 350–400 fms. (Verkrüzen). Skye, 20–30 fms. (M'Andrew)! Fossil: Greenock (Ker, *vide* Brown); Uddevalla (Crosskey and Robertson)!

Height of spire variable. The minute spiral sculpture was not noticed by Brown or Möller.

This is the *Margarita argentata* of Gould (1841), *M. glauca*, Möller (1842), and *M. Harrisoni* of Hancock (1846); latter two from the types.

*Trochus Vahli*, Möller.

*Margarita Vahlü*, Möll. Ind. Moll. Grönl. p. 8.

Station 4, 20 fms.; Holsteinborg, 12 fms. Greenland (Möller, Amundsen). Spitzbergen (Torell)!

“One of sea's rich gems.”

Littorinidæ.

*Littorina obtusata*, Linné, var. *littoralis* or *limata*.

Godhavn and Holsteinborg.

*Nerita littoralis*, L., *Littorina palliata*, Say, and *L. limata*, Lovén, may be regarded as local and arctic varieties of the first-named species. I noticed this in the list of shells for Captain Burton's work on Iceland. *Nerita littoralis*, var. ( $\beta$  in the second edition of the 'Fauna Suecica'), is probably a variety of *Neritina fluviatilis*. *L. rudis* is even more polymorphous than *L. obtusata*.

*Rissoa arenaria*, Mighels and Adams.

*Cingula arenaria*, Migh. & Ad. in Boston Journ. Nat. Hist. iv. (1842) p. 49, pl. 4. f. 24.

BODY yellowish-white, with a faint tinge of pink: head snout-like, rather long, and cloven vertically: tentacles club-shaped, ciliated at the tips only: eyes placed on the outer base of the tentacles: foot long, slender, rounded and double-edged in front, bluntly pointed behind; no caudal filament could be detected.

Godhavn, 5–20 fms.; Station 4, 20 fms.; Holsteinborg, 10–35 fms. Greenland (Eschricht, and coll. Möller)! Casco Bay, United States (Mighels and Adams). Newfoundland, and Vadsö in Finmark (Verkrüzen)! Spitzbergen (Torell)! Bohuslän, 30–40 fms. (Lovén, as *Rissoa Jeffreysi*)!

Smaller and more conical than *R. castanea*; the colour is



pale yellowish-brown, instead of dark chestnut; and some specimens are "subplicate longitudinally," as described by Mighels and Adams.

The late Professor Stimpson changed the specific name to *Mighelsi*, on the ground that this species was not the *Turbo arenarius* of Montagu; but no shell of that name was even mentioned by Montagu. *Helix arenaria* of Maton and Rackett (*Turbo arenarius* of Turton) is *Odostomia decussata*.

#### *Rissoa castanea*, Möller.

*Rissoa castanea*, Möll. Ind. Moll. Grœnl. p. 9.

BODY whitish, with a tinge of pale brown: *head* bilobed and prominent: *tentacles* club-shaped, ciliated at the edges and more distinctly at the tips: *eyes* on small bulbs at the outer base of the tentacles: *foot* oblong, squarish and double-edged in front, with angular corners, bluntly pointed behind; no caudal filament could be detected. Rather common.

Godhavn, 5-20 fms.; Station 4, 20 fms.; 5, 57 fms.; Holsteinborg, 10 fms. Greenland (Möller). Davis Strait, 30-70 fms. (Sutherland, *vide* S. P. Woodward). Gulf of St. Lawrence, New Brunswick, and Labrador (Whiteaves). Newfoundland (Verkrüzen). Iceland and Spitzbergen (Torell)!

#### *Rissoa globulus*, Möller.

*Rissoa globulus*, Möll. Ind. Moll. Grœnl. p. 9.

BODY pale yellowish-white: *head* snout-like, bilobed or cloven vertically: *mouth* small and pursed up or contracted: *tentacles* club-shaped, serrated or notched at the edges, and having a few cilia at the tips: *eyes* round, black, on the outer base of the tentacles: *foot* proportionally long, rounded and double-edged in front, and bluntly pointed behind; no caudal filament observable. Very common. Feeds on *Laminariæ*. Swims on its back, and spins a byssal thread.

Station 4, 20 fms.; 5, 57 fms.; Holsteinborg, 3-35 fms. Greenland (Möller, Eschricht)! Casco Bay, United States (Mighels and Adams). Gulf of St. Lawrence (Whiteaves). Spitzbergen (Torell)! Vadsö, Norway (G. O. Sars).

Not *Cingula latior* of Mighels and Adams (Bost. Journ. Nat. Hist. iv. p. 48, pl. 4. fig. 22), a specimen of which I dredged on the coast of New England in 1871.

#### Turritellidæ.

##### *Turritella erosa*, Couthouy.

*Turritella erosa*, Couth. in Boston Journ. Nat. Hist. ii. (1839), p. 103, pl. 3. f. 1.

BODY lemon-colour above, whitish underneath: *head* or snout

long, cylindrical and flexible, wrinkled across, cloven in front, restlessly moving about: *tentacles* long, slender and flattened, with rather blunt tips: *eyes* black and round, sessile on the tentacles at their outer base: *foot* thick and long, rounded and double-edged in front, with ear-shaped corners or flaps, bluntly pointed behind: *opercular lobe* large and thin: *operculum* round and multispiral, with the nucleus in the centre; the edges of the whorls overlap, as in *T. terebra*. Not shy, and more tenacious of life than most of the other arctic Mollusca. This survived and crawled about in fresh sea-water, after being sifted from a heap of stuff, which had been dredged six days and was in a putrid state.

Godhavn, 5-80 fms.; Station 1, 175 fms.; 3, 100 fms.; 4, 20 fms.; 5, 57 fms.; Holsteinborg, 12 fms. Greenland (Möller, Amundsen). Gulf of St. Lawrence to Cape Cod, 20-106 fms. Spitzbergen (Torell)! Fossil at Bridlington!

The composition of the shell appears to be less compact or homogeneous than in its congeners, and to be peculiarly liable to the corrosive action of some acid in the sea-water. See the remarks of Mr. Justice Grove in the Introduction to 'British Conchology,' vol. i. pp. lii-liv. In full-grown shells the remaining top whorl is closed by a hemispherical plug of shelly matter, the apex never being perfect. The young is less conical and more cylindrical than *T. acicula*, and the sculpture is different. *T. Eschrichtii* of Middendorff, from Sitcha Island, is allied to the present species, but (judging from his description and figure) must be distinct.

It is the *T. clathratula* of Mr. S. V. Wood, 1848.

#### *Turritella reticulata*, Mighels and Adams.

*Turritella reticulata*, Migh. & Ad. in Boston Journ. Nat. Hist. iv. (1842), p. 50, pl. 4. f. 19.

BODY yellowish-white, with a faint tinge of brown: *head* snout-shaped, thick and strong, cloven in front, and wrinkled across: *tentacles* awl-shaped; tips blunt; edges smooth: *eyes* placed on small bulbs at the outer base of tentacles: *foot* broad, triangular, squarish and double-edged in front, with drooping corners, rounded or bluntly pointed behind. Slug-gish.

Station 1, 175 fms.; 4, 20 fms.; 5, 57 fms.; Holsteinborg, 10 fms. Greenland (Möller). Davis Strait, 30-70 fms. (Sutherland, *vide* S. P. Woodward). Gulf of St. Lawrence, 20-50 fathoms (Mighels and Adams, Whiteaves). Newfoundland (Willis). Nova Scotia (Stimpson)! Spitzbergen (Kröyer, Torell)!

*T. lactea* of Möller, 1842.

## Scalariidæ.

*Acirsa Eschrichti*, Holböll.

*Scalaria Eschrichti* (Holb.), Möller, Ind. Moll. Grœnl. p. 10.

Station 4, 20 fms. Greenland (Holböll, Barrett)! Spitzbergen (Torell)! Murray Bay, Canada (Dawson). Eastport (Verrill). Newfoundland (Verkrüzen); a fragment! Fossil: coasts of Antrim and Aberdeenshire; Uddevalla; Canada (Bayfield, *vide* Lyell)?

In my list of species which I considered Greenlandic, but not North-American nor European ('Proceedings of the Royal Society,' vol. xxv. no. 173, pp. 193 and 194), I included this species from an oversight. It is both North-American and European. Mörch regarded his *Acirsa* as a subgenus of *Scalaria*; but I would venture to raise it to generic rank, for the following reasons. The lips of the mouth in *Acirsa* are not continuous and thickened, so as to form a peristome; the apex of the spire is blunt, instead of being finely pointed; and the peculiar variciform ribs of *Scalaria* are wanting.

Herr Weinkauff's collection of Algerian shells contains a ribless and worn specimen of *Scalaria crenata*, Linné, which, at first sight, looks like *Acirsa Eschrichti*, and was mistaken by the Marquis de Monterosato and myself for that shell (see his 'Notizie intorno alle Conchiglie Mediterranee,' page 40, and the 'Journal de Conchyliologie' for January 1877, p. 38); but on closer examination I find that the lips of the mouth in the Algerian shell are thickened and continuous, the whorls are convex instead of compressed and somewhat angulated at the base, and it shows traces of the punctate sculpture and infrasutural notches which are peculiar to *S. crenata*.

Synonyms: *S. borealis*, Beck (1839), probably, but without description; *S. undata*, Sowerby; *Turritella hibernica*, Waller. *S. subdecussata* of Cantraine (*Mesalia striata*, A. Adams) belongs also to the genus *Acirsa*.

*Acirsa prælonga* \*, Jeffr.

SHELL having the shape of a long and graceful obelisk, rather solid, opaque, when living probably glossy: *sculpture*, numerous fine, curved, longitudinal striæ or riblets, and 5 thread-like spiral striæ on each whorl; of these last the bottom or suprasutural stria is the strongest and forms a keel round the base, which is smooth and somewhat excavated; the part below the suture (about one third of each whorl) is also destitute of spiral striæ; in one specimen the uppermost

\* Very long.

of these striæ is more prominent than the three below it, so as to give an angulated appearance to the whorls; the two sets of striæ cross one another, the result being a faint cancellation; top whorls smooth: colour whitish: spire slender; apex blunt: whorls 12-15, convex, gradually enlarging: suture deep: mouth roundish-oval: outer lip thin: inner lip folded back a little at the base. L. 0.7. B. 0.125.

Station 12, 1450 fms.; two imperfect specimens. 'Porcupine' Expedition, 1870, off the coast of Portugal, 994 fms.; a single specimen.

One of the 'Valorous' specimens, which is fragmentary, measures 0.15 inch in breadth, and shows that the shell attains greater dimensions than those given in the above description. It is a very elegant species.

### Pyramidellidæ.

#### *Odostomia albula*, Fabricius.

*Turbo albulus*, Fabr. Fn. Gr. p. 394.

BODY milk-white, with a faint tinge of yellowish-brown: head snout-like, cloven in front, with smooth or plain edges; tentacles compressed, leaf-like or triangular, and folded inwards; the edges are microscopically notched or saw-like, but not ciliated: eyes small, sessile on the inner bases of the tentacles: foot rather short and thick, closely ciliated in front, with the cilia in active and incessant motion, squarish and having slightly angular corners, bluntly pointed behind: operculum ear-shaped, thin, paucispiral, marked with flexuous striæ, and similar to that of other species of *Odostomia*. The animal is very shy or sluggish.

Holsteinborg, 10 fms. Greenland (Fabricius, Möller). Spitzbergen Is-sound, 50 fms. (Torell)! North Japan (St. John); variety, anfractibus minus convexis! Some of the Japanese specimens have on the pillar a slight indication of the usual fold or tooth. Mr. A. Adams described this variety as *Menestho sulcatina*.

The specific name is too much like *albella*; but it may be more inconvenient to change it. Otherwise I would have proposed *Fabricii*.

I cannot distinguish this species from *Odostomia* by any generic character. The animal is similar; and the shell has the same heterostrophe and inverted apex. Möller says also that it wants the lingual membrane or odontophore. He also noticed the operculum, which Fabricius could not detect—"operculum nullum." It is the type of Möller's genus *Menestho*. Menke says, in his 'Zeitschrift für Malakozoolo-

gie' for 1844, page 12, that *Menestho* stands between *Scalaria* and *Velutina*. His allocation of other genera constituted by Möller are less happy: e. g. *Amaura*, between *Natica* and *Margarita*; and *Admete*, between *Mitra* and *Lottia*. It is certainly not the *Monoptygma* of Lea, which has an obliquely spiral fold on the pillar. Couthouy placed a North-American species (*striatula*), allied to the present, in Brown's genus *Pyramis*, the type of which is *Eulina subulata*. *Pyramis striatula* of Couthouy has been referred by Stimpson and Binney to the *Menestho albula* of Möller; but it is very much larger and more cylindrical, and the sculpture is different.

*O. albula* appears to be the sole representative in the Arctic seas of the numerous family of Pyramidellidæ.

## XX.—Description of *Niphargus puteanus*, var. *Forelii*.

By ALOIS HUMBERT\*.

THE existence of Amphipod Crustaceans living in wells and more or less deprived of visual organs was indicated in 1835 at Paris and in Germany. MM. P. Gervais and C. L. Koch, who were the first to discover them, referred them to the genus *Gammarus*. Some years later, Schiödte, who had discovered a species of the same group in the caverns of Carniola and Istria, perceived that these subterranean crustaceans deserve to form a distinct genus, to which he gave the name of *Niphargus*, which is now generally adopted.

A great number of memoirs have since been published upon these animals; and these have furnished us with much information as to their organization and geographical distribution. New species of the genus *Niphargus* and even new genera allied to the latter have been discovered, both in the subterranean waters of wells and caverns and in the sea. Finally, in 1869 M. F. A. Forel indicated for the first time the existence of blind Gammaridæ (*Niphargus*) in the depths of the lake of Geneva, and in 1873 he found the same animals in the lake of Neuchâtel.

Although we may say that our knowledge of the Crustacea of this group has been greatly extended, we must unfortunately add that the subject still presents many doubtful points, and

\* Translated by W. S. Dallas, F.L.S., from an abstract by the author in the 'Bibliothèque Universelle: Archives des Sciences,' 15th January, 1877, pp. 58-75. The original paper appeared in the 'Bulletin de la Société Vaudoise des Sciences Naturelles,' tome xiv. (1876), pp. 278-393, pls. 6 & 7.